

## REMARKS

The claims are claims 10, 11, 14 and 15.

Claims 1 to 9, 12, 13 and 16 to 20 have been cancelled.

Claims 10, 11, 14 and 15 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 to 16 of U.S. Patent No. 6,721,428. Regarding claim 10, the OFFICE ACTION cites claim 9 at column 12, line 63 to column 13, line 38 of U.S. Patent No. 6,721,428. Regarding claim 14, the OFFICE ACTION cites claim 11 at column 13, line 44 to column 14, line 18 of U.S. Patent No. 6,721,428.

Claim 10 recites subject matter not obvious from claim 9 of U.S. Patent No. 6,721,428. Claim 10 recites "fitting said hearing aid to said individual." Claim 9 of U.S. Patent No. 6,721,428 includes no recitation corresponding to this limitation of claim 10. The rejection points to no language of U.S. Patent No. 6,721,428 making this limitation obvious. Accordingly, claim 10 is not subject to an obviousness-type double patenting rejection over U.S. Patent No. 6,721,428.

Claim 10 recites further subject matter not obvious from claim 9 of U.S. Patent No. 6,721,428. Claim 10 recites "providing said individual with a device to generate indication signals at will." Claim 9 of U.S. Patent No. 6,721,428 includes no recitation corresponding to this limitation of claim 10. Claim 9 of U.S. Patent No. 6,721,428 fails to recite any user input device. The rejection points to no language of U.S. Patent No. 6,721,428 making this limitation obvious. Accordingly, claim 10 is not subject to an obviousness-type double patenting rejection over U.S. Patent No. 6,721,428.

Claim 10 recites still further subject matter not obvious from claim 9 of U.S. Patent No. 6,721,428. Claim 10 recites "generating and providing a first series of audio digital signals to said

hearing aid, each digital signal in said first series of signals corresponding to an analog audio signal having a selected frequency and multiple power levels." In particular, claim 9 of U.S. Patent No. 6,721,428 fails to recite audio digital data "corresponding to an analog audio signal having selected frequency and multiple power levels." The rejection points to no language of U.S. Patent No. 6,721,428 making this limitation obvious. Accordingly, claim 10 is not subject to an obviousness-type double patenting rejection over U.S. Patent No. 6,721,428.

Claim 10 recites still further subject matter not obvious from claim 9 of U.S. Patent No. 6,721,428. Claim 10 recites "receiving said indication signal during said generation of a signal of a selected frequency indicative of said individual hearing said selected frequency." Claim 9 of U.S. Patent No. 6,721,428 includes no recitation corresponding to this limitation of claim 10. As recited in claim 10, the method responds to the subjective hearing of the individual. In contrast, claim 9 of U.S. Patent No. 6,721,428 recites an objective measure including "providing a sound field measuring device in the vicinity of said loudspeaker to generate second audio digital data representing sound produced by said loudspeaker." This recitation is different in quality and kind from the recitation of claim 10. The rejection points to no language of U.S. Patent No. 6,721,428 making this limitation obvious. Accordingly, claim 10 is not subject to an obviousness-type double patenting rejection over U.S. Patent No. 6,721,428.

Claim 14 recites still further subject matter not obvious from claim 11 of U.S. Patent No. 6,721,428. Claim 14 recites "a source of first audio digital data corresponding to analog audio signals having a selected frequency and multiple power levels." Claim 11 of U.S. Patent No. 6,721,428 includes no recitation corresponding to this limitation of claim 10. In particular, claim 11 of U.S. Patent No. 6,721,428 fails to recite audio signals "corresponding

to analog audio signals having selected frequency and multiple power levels." The rejection points to no language of U.S. Patent No. 6,721,428 making this limitation obvious. Accordingly, claim 10 is not subject to an obviousness-type double patenting rejection over U.S. Patent No. 6,721,428.

Claim 14 recites further subject matter not obvious from claim 9 of U.S. Patent No. 6,721,428. Claim 14 recites "a device for generating indication signals indicative of said individual receiving said sound." Claim 11 of U.S. Patent No. 6,721,428 includes no recitation corresponding to this limitation of claim 10. As recited in claim 14, the apparatus responds to the subjective hearing of the individual. In contrast, claim 11 of U.S. Patent No. 6,721,428 recites an objective measure including "a sound field measuring device in the vicinity of said loudspeaker to generate second audio digital data representing sound produced by said loudspeaker." This recitation is different in quality and kind from the recitation of claim 14. The rejection points to no language of U.S. Patent No. 6,721,428 making this limitation obvious. Accordingly, claim 14 is not subject to an obviousness-type double patenting rejection over U.S. Patent No. 6,721,428.

Claims 14 and 15 were rejected under 35 U.S.C. 103(a) as made obvious by the combination of Gauthier WO 90/09760 and Op de Beek U.S. Patent No. 4,845,758.

Claim 14 recites subject matter not made obvious by the combination of Gauthier and Op de Beek. Claim 14 recites an apparatus including "a source of first audio digital data corresponding to analog audio signals having a selected frequency and multiple power levels." This claim recites a technique taught with respect to Figure 6 of this application where the user's hearing is tested by supplying audio digital signals to the hearing aid bypassing the microphone and analog to digital converter. Gauthier fails to disclose supply of audio digital signals to the

hearing aid in this testing mode. Figures 3 and 4 of Gauthier illustrate supplying analog audio signals from signal generator 320 to the hearing aid for testing the user's hearing. Note that Gauthier at page 8, line 25 to page 9, line 20 makes clear that it is interface unit 18 that generates the audio signal and not computer 10 as stated in the OFFICE ACTION. The portion of Op de Beek cited in the FINAL REJECTION (column 5, line 37 to column 6, line 18) teaches a hearing aid with a digital filter. This fails to teach testing a user's hearing using audio digital signals to the hearing aid as test tones. Accordingly, claim 14 is allowable over the combination of Gauthier and Op de Beek.

Claim 15 recites subject matter not made obvious by the combination of Gauthier and Op de Beek. Claim 15 recites an iterative process which generates "digital filter coefficients controlling center frequency, filter bandwidth and amplitude for a succession of additional digital audio filters." Claim 15 further recites continuing iterations until a response curve is within a tolerance range or "a predetermined limit on the number of digital audio filters has been reached, whichever occurs first." This language requires that digital filters be instantiated one at a time with no more used than required to fit the response curve within the tolerance range. This language makes clear that the number of filters is variable and selected iteratively to provide the desired filtering. The language "until...a predetermined limit on the number of digital audio filters has been reached" would not be meaningful unless this invention adds digital filters. Gauthier teaches at page 27, line 15 to page 8, line 1 a fixed number of filter banks that are always used. While Gauthier does teach an iterative filter definition processes, this is not based upon adding digital filters as required by claim 15. Op de Beek teaches a fixed number of filters at column 5, lines 37 to 39, which states:

"FIG. 1 shows an equaliser 1 with n series-arranged band filters  $F_1$  to  $F_n$  between the input 2 and the output 3."

This language states that Op de Beek uses n filters. In the absence of any indication that Gauthier or Op de Beek teach a variable number of digital filters, claim 15 is allowable over the combination of Gauthier and Op de Beek.

Claim 10 was rejected under 35 U.S.C. 103(a) as made obvious by the combination of Gauthier WO 90/09760 and Sjursen U.S. Patent No. 6,292,571.

Claim 10 recites subject matter not made obvious by the combination of Gauthier and Sjursen. Claim 10 recites a method including "generating and providing a first series of audio digital signals to said hearing aid, each digital signal in said first series of signals corresponding to an analog audio signal having a selected frequency and multiple power levels." This claim recites a technique taught with respect to Figure 6 of this application where the user's hearing is tested by supplying audio digital signals to the hearing aid bypassing the microphone and analog to digital converter. Gauthier fails to disclose supply of digital signals to the hearing aid in this testing mode. Figures 3 and 4 of Gauthier illustrate supplying analog audio signals from signal generator 320 to the hearing aid for testing the user's hearing. Note that Gauthier at page 8, line 25 to page 9, line 20 makes clear that it is interface unit 18 that generates the audio signal and not computer 10 as stated in the OFFICE ACTION. The portion of Sjursen cited in the FINAL REJECTION (Figures 7 to 23 and column 4, lines 7 to 47) fails to make obvious this subject matter. The frequency response curves of Figures 7 to 23 cannot make obvious the provision of audio digital signals to the hearing aid for testing as claimed. Column 4, lines 7 to 47 of Sjursen discloses a

hearing aid with an ADC, a digital signal processor for digital filtering and a DAC. This portion of Sjursen fails to disclose testing hearing by supplying audio digital signals to the hearing aid. Accordingly, claim 10 is allowable over the combination of Gauthier and Sjursen.

Claim 11 was rejected under 35 U.S.C. 103(a) as made obvious by the combination of Gauthier, Sjursen and Op de Beek.

Claim 11 recites subject matter not made obvious by the combination of Gauthier, Sjursen and Op de Beek. Claim 11 recites an iterative process which generates "digital filter coefficients controlling center frequency, filter bandwidth and amplitude for a succession of additional digital audio filters." Claim 11 further recite continuing iterations until a response curve is within a tolerance range or "a predetermined limit on the number of digital audio filters has been reached, whichever occurs first." This language requires that digital filters be instantiated one at a time with no more used than required to fit the response curve within the tolerance range. This language makes clear that the number of filters is variable and selected iteratively to provide the desired filtering. The language "until...a predetermined limit on the number of digital audio filters has been reached" would not be meaningful unless this invention adds digital filters. Gauthier teaches at page 27, line 15 to page 8, line 1 a fixed number of filter banks that are always used. While Gauthier does teach an iterative filter definition processes, this is not based upon adding digital filters as required by claim 11. Sjursen fails to teach the use of plural filters or the iteratively added plural filters recited in claim 11. Further, the OFFICE ACTION does not allege that Sjursen discloses plural filters. Op de Beek teaches a fixed number of filters at column 5, lines 37 to 39, which states:

"FIG. 1 shows an equaliser 1 with  $n$  series-arranged band filters  $F_1$  to  $F_n$  between the input 2 and the output 3."

This language states that Op de Beek uses  $n$  filters. In the absence of any indication that Gauthier, Sjursen or Op de Beek teach a variable number of digital filters, claim 11 is allowable over the combination of Gauthier, Sjursen and Op de Beek.

The Applicants respectfully submit that all the present claims are allowable for the reasons set forth above. Therefore early entry of this amendment, reconsideration and advance to issue are respectfully requested.

If the Examiner has any questions or other correspondence regarding this application, Applicants request that the Examiner contact Applicants' attorney at the below listed telephone number and address to facilitate prosecution.

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Respectfully submitted,



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